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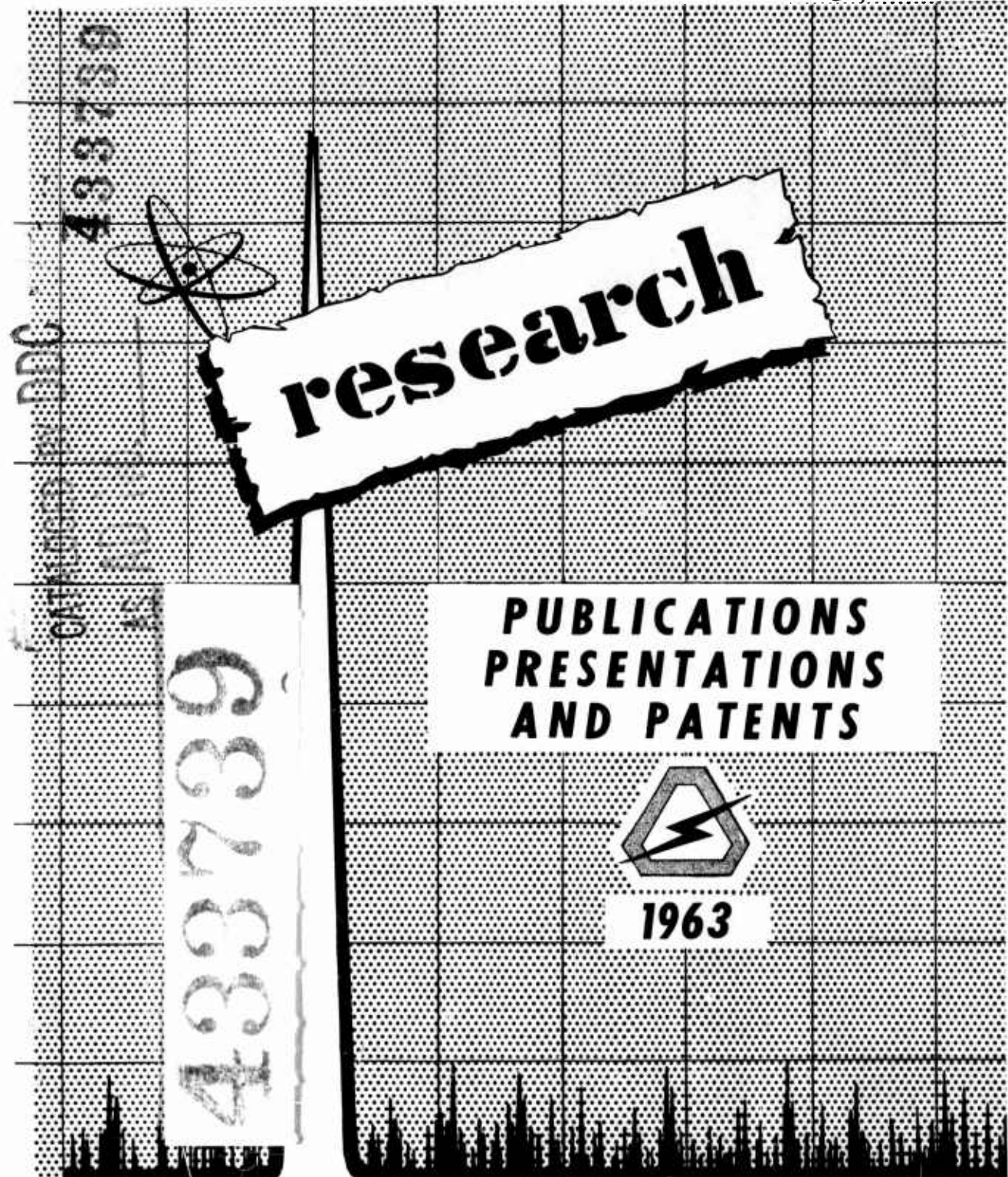
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PUBLICATIONS  
PRESENTATIONS  
AND PATENTS



1963

U.S. Army Electronics Research and Development Laboratories

U. S. ARMY ELECTRONICS RESEARCH AND DEVELOPMENT LABORATORIES  
FORT MONMOUTH, NEW JERSEY

1 JANUARY 1964

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PUBLICATIONS AND PRESENTATIONS  
JANUARY 1963 THROUGH DECEMBER 1963

1. "DOUBLE-RESONANCE PARAMETERS FOR SOLUTIONS OF FRESH ASPHALTENE" - (JEFFRIES-HARRIS, M. J. OF CALIFORNIA RESEARCH CORPORATION), POINDEXTER, E. H., PUBLISHED IN THE JOURNAL OF CHEMICAL PHYSICS, 1 JANUARY 1963.
2. "INVESTIGATIONS ON A BEAM WAVEGUIDE FOR OPTICAL FREQUENCIES" - GOUBAU, G., CHRISTIAN, J. R., PRESENTED AT THE MILLIMETER AND SUBMILLIMETER CONFERENCE, 7 - 10 JANUARY 1963, ORLANDO, FLORIDA.
3. "MM-WAVE GENERATION BY MULTIPLE QUANTUM TRANSITIONS" - ANDRESEN, H. G., PRESENTED AT THE MILLIMETER WAVE AND SUBMILLIMETER CONFERENCE, ORLANDO, FLORIDA, 7 - 10 JANUARY 1963.
4. "DESIGN PROBLEMS AND PERFORMANCE OF MM-WAVE FABRY-PEROT REFLECTOR PLATES" - WELLING, H., ANDRESEN, H. G., PRESENTED AT THE MILLIMETER AND SUBMILLIMETER CONFERENCE, ORLANDO, FLORIDA, 9 - 10 JANUARY 1963.
5. "A FREQUENCY LOCK SYSTEM FOR A MM-WAVE KLYSTRON" - WELLING, H., ANDRESEN, H. G., PRESENTED AT THE MILLIMETER WAVE AND SUBMILLIMETER CONFERENCE, ORLANDO, FLORIDA, 9-10 JANUARY 1963.
6. "RADAR DETERMINATION OF THE ROOT MEAN SQUARE SLOPE OF THE LUNAR SURFACE" - DANIELS, F. B., PUBLISHED IN THE JOURNAL OF GEOPHYSICAL RESEARCH, 15 JANUARY 1963.
7. "MICROINDENTATION HARDNESS - ITS HISTORY AND APPLICATION" - TOMAN, L., PRESENTED BEFORE THE NEW YORK MICROSCOPICAL SOCIETY, NEW YORK CITY, 18 JANUARY 1963.
8. "SOLID STATE DEVICES" - JACOBS, H., PRESENTED AT THE U. S. MILITARY ACADEMY, WEST POINT, NEW YORK, 19 JANUARY 1963.
9. "COMPONENTS PARTS RELIABILITY PROGRAMS AT USAELRDL" - GRUOL, J. W., PRESENTED AT THE 9TH NATIONAL SYMPOSIUM ON RELIABILITY AND QUALITY CONTROL, SAN FRANCISCO, CALIFORNIA, 23 JANUARY 1963. ALSO PUBLISHED IN THE PROCEEDINGS OF THE 9TH NATIONAL SYMPOSIUM ON RELIABILITY AND QUALITY CONTROL, JANUARY 1963.

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11. "HIGH RATE DEPOLARIZER STUDIES FOR LIQUID AMMONIA SYSTEMS" - KNAPP, H. R., PRESENTED AT THE 5TH AMMONIA BATTERY SYMPOSIUM, PLYMOUTH MEETING, PENNSYLVANIA, 29 JANUARY 1963 AND PUBLISHED IN THE JANUARY PROCEEDINGS.
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14. "RELATIONSHIPS OF CORONA TO LIFE AND RELIABILITY OF POLYETHYLENE INSULATED CABLE (NEW TEST METHODS FOR CABLE)" - (STARR, W. T. OF GENERAL ELECTRIC CO), AGRIOS, J. P., PRESENTED AT THE IEEE MEETING, NEW YORK, 30 JANUARY 1963 AND PUBLISHED IN THE JANUARY PROCEEDINGS.
15. "WELDING FOR MICROELECTRONICS" - GERHOLD, R. A., LANE, W. V., PRESENTED AT THE 9TH ANNUAL MIDWEST WELDING CONFERENCE, CHICAGO, ILLINOIS, 31 JANUARY 1963.
16. "A NEW APPROACH TO TRANSISTOR RELIABILITY PREDICTION" - REICH, B. PUBLISHED IN SEMICONDUCTOR PRODUCTS, JANUARY 1963.
17. "FOR X-Y PLOTTING---SATURABLE REACTOR SWEEP SUPPLY" - SHAR, M. L. PUBLISHED IN ELECTRONIC INDUSTRIES, JANUARY 1963.
18. "CRYSTALS FOR FILTER APPLICATION, PART I - GENERAL THEORY" - BECHMANN, R., PRIEBE, F. K., PUBLISHED IN FREQUENCY, VOL 1, NO. 2, JANUARY-FEBRUARY 1963.

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20. "ANALYSIS OF EPITAXIALLY GROWN SEMICONDUCTOR LAYERS BY MEANS OF LIGHT FIGURES" - GUALTIERI, J. G., KERECMAN, A. J., PUBLISHED IN THE REVIEW OF SCIENTIFIC INSTRUMENTS, JANUARY 1963.
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22. "GALVANOMAGNETIC EFFECTS AND BAND STRUCTURE OF PURE AND TIN-DOPED SINGLE-CRYSTAL ANTIMONY" - EPSTEIN, S. (JURETSCHKE, H. J. OF POLYTECHNIC INST OF BROOKLYN), PUBLISHED IN THE PHYSICAL REVIEW, 1 FEBRUARY 1963.
23. "RESONANT MIXING EFFECTS IN DISTRIBUTED MEDIA" - ANDRESEN, H. G., WELLING, H., MOLLER, K., PRESENTED AT THE 3RD INTERNATIONAL SYMPOSIUM ON QUANTUM ELECTRONICS, PARIS, FRANCE, 11-15 FEBRUARY 1963.
24. "QUANTUM NOISE" - SENITZKY, I. R., PRESENTED AT THE 3RD INTERNATIONAL SYMPOSIUM ON QUANTUM ELECTRONICS, PARIS, FRANCE, 11-15 FEBRUARY 1963.
25. "INTERCONNECTION PROBLEM" - GERHOLD, R. A., PRESENTED AT THE INTERNATIONAL SOLID STATE CIRCUITS CONFERENCE, PHILADELPHIA, PENNSYLVANIA, 14 FEBRUARY 1963.
26. "RADIO HORIZON DISTRIBUTION VARIATION ON 108 MEGACYCLES PER SECOND MEASURED WITH SATELLITE SIGNALS" - ARENDT, P. R., SOICHER, H., PUBLISHED IN THE JOURNAL OF GEOPHYSICAL RESEARCH, 15 FEBRUARY 1963.
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30. "AN IONOSPHERIC PHENOMENON DETECTED BY DOPPLER MEASUREMENTS" - ARENDT, P. R., SOICHER, H., PUBLISHED IN THE PROCEEDINGS OF IEEE, FEBRUARY 1963.
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34. "TOPOLOGY ENGINEERING OF COMMUNICATION SYSTEMS" - IKRATH, K., ULFERS, H., PUBLISHED IN IEEE TRANSACTIONS ON COMMUNICATION SYSTEMS, 1 MARCH 1963.
35. "EVALUATION OF MICROELECTRONICS" - DANKO, S. F., PRESENTED AT IEEE, NEW YORK SECTION, FORT MONMOUTH, NEW JERSEY, 1 MARCH 1963.
36. "MICROMODULES" - GERHOLD, R. A., PRESENTED AT IEEE, NEW YORK SECTION, FORT MONMOUTH, NEW JERSEY, 1 MARCH 1963.
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41. "LARGE VOLUME SUPPORTED CYLINDER AND MULTI-ANVIL APPARATUS" - GIARDINI, A. A., PRESENTED AT AROD MEETING, WATERVLIET, NEW YORK, 14-15 MARCH 1963.
42. "A REALISTIC APPRAISAL OF CLOUD MODIFICATION" - WEICKMANN, H. K. PRESENTED AT THE SEMINAR OF THE METEOROLOGY DEPARTMENT, NEW YORK UNIVERSITY, NEW YORK, 15 MARCH 1963.
43. "THIN FILM INTEGRATED CIRCUITRY" - DEGENHART, H., PRESENTED AT IEEE, NEW YORK SECTION, FORT MONMOUTH, NEW JERSEY, 17 MARCH 1963.
44. "ACTIVE DEVICE ASPECTS OF MICROELECTRONICS" - MEINDL, J. D., PRESENTED AT IEEE, NEW YORK SECTION, FORT MONMOUTH, NEW JERSEY, 17 MARCH 1963.
45. "MAGNETIC AND ELECTRIC ELF OBSERVATIONS, PROJECT 6.5E OPERATION FISH BOWL" - BOMKE, H., GROTE, H.H., HARRIS, A. K., BALTON, I. A., PRESENTED AT DASA SYMPOSIUM ON ELF, VLF AND MAGNETIC MEASUREMENTS, AIR FORCE CAMBRIDGE RESEARCH LABORATORY, BEDFORD, MASSACHUSETTS, 18-19 MARCH 1963.

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47. "LASERS" - JACOBS, H., PRESENTED AT THE JUNIOR SCIENCE SYMPOSIUM, USAELRDL, FORT MONMOUTH, NEW JERSEY, 22 MARCH 1963.
48. "ANTIFERROMAGNETISM OF EUTe" - WILL, G., PRESENTED AT THE AMERICAN PHYSICAL SOCIETY MEETING (FERROMAGNETISM OF NON-METALS), ST LOUIS, MISSOURI, 24-29 MARCH 1963.
49. "EFFECT OF TEMPERATURE AND INJUNCTION LEVEL OF THE PHOTO-VOLTAGE AT A RHODIUM TO P-SI CONTACT" - (GREEN, M. OF BURROUGHS CORP), (PHILBRICK, J., OF WESTINGHOUSE RESEARCH LABORATORY), GREENBERG, I. N., PRESENTED AT THE AMERICAN PHYSICAL SOCIETY MEETING, ST LOUIS, MISSOURI, 25-28 MARCH 1963.
50. "EXPERIMENTAL CALIBRATIONS OF SILICON RECTIFIER DEVELOPED AS A FAST NEUTRON SUB-MINIATURE DOSIMETER" - (SWARTZ, J. OF BATTELLE MEMORIAL INST), BROWNE, L., PRESENTED AT IEEE PUBLISHED IN IEEE TRANSACTIONS ON NUCLEAR SCIENCE, JULY 1963.
51. "NOISE SIGNALS AND CARRIER MODULATION ARISING IN ELECTRICAL CABLES DURING NUCLEAR PULSE IRRADIATION" - BOTH, E., BRUEMMER, H., LASCARO, J., SCHLOSSER, W., PRESENTED AT IEEE INTERNATIONAL CONVENTION, NEW YORK, 26 MARCH 1963 AND PUBLISHED IN IEEE INTERNATIONAL CONVENTION RECORD.
52. "MICROMODULARIZED HELMET RADIO" - CURTIS, M., BECHTOLD, N., PRESENTED AT IEEE INTERNATIONAL CONVENTION, NEW YORK, 26 MARCH 1963 AND PUBLISHED IN IEEE INTERNATIONAL CONVENTION RECORD.
53. "TEMPERATURE AND OTHER CHARACTERISTICS OF THIN FILM NICHROME RESISTORS ON VARIOUS SUBSTRATE MATERIALS" - DEGENHART, H., PRATT, I., PRESENTED AT IEEE INTERNATIONAL CONVENTION, NEW YORK, 26 MARCH 1963 AND PUBLISHED IN IEEE INTERNATIONAL CONVENTION RECORD.

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55. "THE SYNCOM EVENT SCHEDULE NETWORKS - THE BEST OF PERT" - VAUGHAN, B. W., KEDROWSKY, G., PRESENTED AT IEEE INTERNATIONAL CONVENTION, NEW YORK, 27 MARCH 1963 AND PUBLISHED IN THE 1963 IEEE INTERNATIONAL CONVENTION RECORD.
56. "MEASURING FAST-NEUTRON FLUXES IN MIXED NEUTRON-GAMMA ENVIRONMENT" - KRONENBERG, S., PUBLISHED IN NUCLEONICS MARCH 1963.
57. "INFRARED TRANSMITTANCE OF RHOMBIC SULFUR" - MACNEIL, C., PUBLISHED IN THE JOURNAL OF THE OPTICAL SOCIETY, MARCH 1963.
58. "MONITORING LASER POWER BY SOLAR CELL" - SCHIEL, E., PUBLISHED IN SOLID/STATE/DESIGN, MARCH 1963.
59. "SPIN-WAVE INSTABILITY IN HEXAGONAL FERRITES WITH A PREFERENTIAL PLANE" - (SCHLOMANN, E., JOSEPH, R. I. OF RAYTHEON), BADA, I., PUBLISHED IN THE JOURNAL OF APPLIED PHYSICS, MARCH 1963.
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61. "TRANSIENTS INDUCED IN ELECTRICAL CABLES BY NUCLEAR RADIATION PULSES" - BOTH, E., PUBLISHED IN VULNERABILITY NEWS AND VIEWS, MARCH 1963.
62. "OPTICAL MASER DETECTION BY MICROWAVE ABSORPTION IN SEMICONDUCTORS" - BRAND, F., JACOBS, H., WEITZ, S., STROZYK, J., PRESENTED AT IEEE INTERNATIONAL CONVENTION, NEW YORK, MARCH 1963, PUBLISHED IN 1963 IEEE INTERNATIONAL CONVENTION RECORD.

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64. "ANTENNA PATTERN MEASUREMENT BY SATELLITE" - BRUECKMANN, H., PUBLISHED IN IEEE TRANSACTIONS ON ANTENNAS AND PROPAGATION, MARCH 1963.
65. "STEP-STRESS AS AN INDICATOR FOR MANUFACTURING PROCESS CHANGES" - HAKIM, E. B., PUBLISHED IN SOLID/STATE/DESIGN, MARCH 1963.
66. "CONSEQUENCES OF THE BCS THEORY FOR THE OCCURRENCE OF SUPER-CONDUCTORS IN THE PERIODIC TABLE AND RELATED PROBLEMS" - GAULE, G. K., PRESENTED AT NEW YORK UNIVERSITY, NEW YORK, 3 APRIL 1963.
67. "COMMUNICATION VIA SEISMIC WAVES" - IKRATH, K., SCHNEIDER, W., PUBLISHED IN ELECTRONICS, 12 APRIL 1963.
68. "FLUORESCENCE OF  $\text{Sm}^{3+}$  IN  $\text{CaF}_2$ " - RABBINER, N., PUBLISHED IN PHYSICAL REVIEW, 15 APRIL 1963.
69. "THE U. S. ARMY ELECTRONICS RELIABILITY STEERING GROUP - A HISTORY LEADING TOWARD ITS ORIGIN AND A PROGRESS REPORT" - NACHMIAS, H. M., PRESENTED AT RESERVE OFFICER'S CONTROL GROUP DETACHMENT NR 25, FORT MONMOUTH, NEW JERSEY, 16 APRIL 1963.
70. "ON THE THEORY OF THE ATMOSPHERIC ELECTRIC CURRENT FLOW, IV" - KASEMIR, H. W., PRESENTED AT THE AMERICAN GEOPHYSICAL UNION AND AMERICAN METEOROLOGICAL SOCIETY, WASHINGTON, D. C., 17 APRIL 1963.
71. "BASIC AXIOMS OF MODAL LOGIC: MANY-VALUED LOGICS" - BISER, E. PRESENTED AT FRIENDS OF MATHEMATICS SOCIETY MEETING, MONMOUTH COLLEGE, WEST LONG BRANCH, NEW JERSEY, 17 APRIL 1963.

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73. "A QUALITATIVE TORNADO MODEL" - WEICKMANN, H. K. PRESENTED AT THE AMERICAN GEOPHYSICAL UNION AND AMERICAN METEOROLOGICAL SOCIETY, WASHINGTON, D. C., 17 APRIL 1963.
74. "A COMPARISON OF THE SUPERCONDUCTORS AMONG THE ELEMENTS AND AMONG REPRESENTATIVE ALLOYS AND COMPOUNDS" - GAULE, G. K., PRESENTED AT THE AMERICAN PHYSICAL SOCIETY MEETING, WASHINGTON, D.C., 22 APRIL 1963.
75. "4-WIRE AUTOMATIC SWITCHING" - THOMAS, G. W., PRESENTED AT THE FOURTH ANNUAL CONFERENCE OF THE NATIONAL SECURITY INDUSTRIAL ASSOCIATION, FORT MONMOUTH, NEW JERSEY, 26 APRIL 1963.
76. "GROWTH AND PROPERTIES OF SINGLE CRYSTAL HEXAGONAL FERRITES" - SAVAGE, R. O., TAUBER, A., PRESENTED AT THE AMERICAN CERAMIC SOCIETY MEETING, PITTSBURGH, PENNSYLVANIA, 28 APRIL - 3 MAY 1963.
77. "CAMERA EXPOSURE CONTROL" - ORLANDO, C., PRESENTED AT SPSE 1963 ANNUAL CONFERENCE, ATLANTIC CITY, NEW JERSEY, 29 APRIL - 3 MAY 1963.
78. "APPLICATION OF PHOTOGRAPHIC EMULSION MODULATION TRANS CURVES" - LEVY, M., PRESENTED AT SPSE 1963 ANNUAL CONFERENCE, ATLANTIC CITY, NEW JERSEY, 29 APRIL - 3 MAY 1963.
79. "DIRECT CONVERSION OF TOPSIDE IONOGRAMS TO EXPERIMENTAL ELECTRON PROFILES" - ARENDT, P. R., PAPAYOANOU, A., PRESENTED AT URSI MEETING, WASHINGTON, D. C., 29 APRIL - 2 MAY 1963.
80. "PHASE-LOCK SYSTEM FOR THE GENERAL RADIO 1209-B OSCILLATOR" - ANDRESEN, H. G., PUBLISHED IN REVIEW OF SCIENTIFIC INSTRUMENTS, APRIL 1963.

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81. "CONDITIONS FOR A MATRIX TO COMMUTE WITH ITS INTEGRAL" - EPSTEIN, I. J., PUBLISHED IN THE PROCEEDINGS OF THE AMERICAN MATHEMATICAL SOCIETY, APRIL 1963.
82. "A NEW SERIES OF 'HEXAGONAL FERRITE' STRUCTURES" - KOHN, J. A., ECKART, D. W., PUBLISHED IN THE JOURNAL OF PHYSICAL CHEMISTRY, APRIL 1963.
83. "SINGLE-CRYSTAL FERROXIDURE,  $\text{FeFe}_{12-2x}^{3+}\text{Ir}_x^{4+}\text{Zn}_x^{2+}\text{O}_{19}$ , WITH STRONG PLANAR ANISOTROPY" - TAUBER, A., KOHN, J. A., SAVAGE, R. O., PUBLISHED IN THE JOURNAL OF APPLIED PHYSICS, APRIL 1963.
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85. "NEW MICROWAVE TECHNIQUES IN SURFACE RECOMBINATION AND LIFE-TIME STUDIES" - JACOBS, H., BRAND, F., MEINDL, J. D., WEITZ, S., (BENJAMIN, R OF MONMOUTH COLLEGE), HOLMES, D. A. PUBLISHED IN THE PROCEEDINGS OF IEEE, APRIL 1963.
86. "RADAR DETERMINATION OF LUNAR SLOPES: CORRECTION FOR THE DIFFUSED COMPONENT" - DANIELS, F. B., PUBLISHED IN THE JOURNAL OF GEOPHYSICAL RESEARCH, 1 MAY 1963.
87. "THE THUNDERCLOUD" - KASEMIR, H. W., PRESENTED AT THE THIRD INTERNATIONAL CONFERENCE ON ATMOSPHERIC ELECTRICITY, MONTREUX, SWITZERLAND, 3 MAY 1963.
88. "TIME-DEPENDENT FAST-NEUTRON SPECTROSCOPY IN A NUCLEAR WEAPON ENVIRONMENT IN OUTER SPACE" - KRONENBERG, S., PRESENTED AT THE DASA MEETING ON TEST INSTRUMENTATION, ALBUQUERQUE, NEW MEXICO, 7-9 MAY 1963.

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89. "COMMUNICATION WITH LASERS" - LIPTON, M. H., JACOBS, H., PRESENTED AT MONMOUTH CHAPTER OF THE PROFESSIONAL GROUP ON COMMUNICATIONS SYSTEMS, IEEE, LITTLE SILVER, NEW JERSEY, 8 MAY 1963.
90. "FLAT CONDUCTOR FLEXIBLE TYPE CABLE USE MADE PRACTICAL BY INSULATION PIERCING CONNECTORS" - GODWIN, E., MAYO, W., PRESENTED AT THE 1963 ELECTRONIC COMPONENTS CONFERENCE, WASHINGTON, D. C., 8 MAY 1963.
91. "ANODIZED TUNGSTEN THIN FILM CAPACITORS AND RESISTORS" - (BOWERMAN, E. OF GENERAL TEL & ELECTRONICS LAB), DEGENHART, H. J., PRESENTED AT THE 1963 COMPONENTS CONFERENCE, WASHINGTON, D. C., 9 MAY 1963.
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93. "CRYSTAL STRUCTURE OF IMIDAZOL" - WILL, G., PUBLISHED IN NATURE, 11 MAY 1963.
94. "CONDENSATION NUCLEI SEEDING, A NEW TECHNIQUE AND ITS OBJECTIVE FOR CLOUD MODIFICATION" - WEICKMANN, H. K., PRESENTED AT THE 5TH INTERNATIONAL SYMPOSIUM ON CONDENSATION NUCLEI, CLEREMENT-FERRANT, TOULOUSE, FRANCE, 13-15 MAY 1963.
95. "ELEMENTS OF RECEIVER SUSCEPTIBILITY" - GALENIAN, J. C., PUBLISHED IN ELECTRONICS MAGAZINE, 17 MAY 1963.
96. "TRANSIENT BEHAVIOR OF THE CARBON HUMIDITY ELEMENT" - MARCHGRABER, R., GROTE, H., PRESENTED AT THE HUMIDITY SYMPOSIUM, U. S. WEATHER BUREAU, WASHINGTON, D. C., 20-23 MAY 1963.
97. "AC THERMIONIC CONVERTER STUDY" - ANGELLO, J., KITTL, E., PRESENTED AT THE 17TH ANNUAL POWER SOURCES CONFERENCE, ATLANTIC CITY, NEW JERSEY, 21-23 MAY 1963 AND PUBLISHED IN THE PROCEEDINGS, 21-23 MAY 1963.



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99. "SEALED CADMIUM-SILVER OXIDE BATTERIES" - FRINK, A., PRESENTED AT THE 17TH ANNUAL POWER SOURCES CONFERENCE, ATLANTIC CITY, NEW JERSEY, 21-23 MAY 1963 AND PUBLISHED IN THE PROCEEDINGS 21-23 MAY 1963.
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